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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/801,411	03/08/2001	Darrell Lee Ash	RFMI01-00213	2885

7590 10/23/2003  
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EXAMINER

KINKEAD, ARNOLD M

ART UNIT PAPER NUMBER

2817

DATE MAILED: 10/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/801,411

Applicant(s)

ASH, DARRELL LEE

Examiner

Arnold M Kinhead

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on RCE 10-15-03.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,8-10,12 and 15-20 is/are rejected.
- 7) ☒ Claim(s) 4,6,7,11,13 and 14 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers


- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 16.

- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: 

Art Unit: 2817

DETAILED ACTION

*Information Disclosure Statement*

A copy of the foreign references is required. The examiner will send a complete initialed copy of the 1449 in the next response.

*Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10-15-03 has been entered.

*Claim Rejections - 35 USC § 103*

**I. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:**

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**II. Claims 1-3, 5,8-10, 12, and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Driscoll(US pat. 5,608,360) of record and further in view of Gu et al(US 6,426,683 new cite).**

The reference by Driscoll discloses an oscillator circuit that makes use of a SAW resonator(see figure 1, and col. 3, lines 5-20) which provides the suggestion that it is known in the art that SAWR's have a certain amount of parasitic capacitance that may be tuned out. The two port resonator(SAWR,14)(with input and output ports) is shown coupled with inductors (12,13). A load is connected to the output.

The reference does not explicitly describe the inductors as tuning out the parasitic capacitance nor does it show a tunable SAW resonator with varactor. The method steps being inherent.

With regard to the latter idea it is notoriously well known in the art that a resonator maybe made adjustable by adding a varactor that allows for tuning adjustments, see the reference by Gu et al, see figure 5, and col. 5, lines 1-20. The reference by Gu et al discloses a tuning circuit with a SAW resonator(s)(figure 5, 52...) with inductor element(65,67), and varactor(57, variable tuning cap; note this is in series with 52). Low phase noise is achieved by tuning out the stray capacitances with the use of inductor elements. The inductors coupled to ground.

In light of the above it would have been obvious for one of ordinary skill in the art to have modified the SAW resonator as shown in Driscoll to include a varactor control, as shown by Gu et al, to allow for the tuning of the resonator as desired. Also, the inductors allowing for compensation against the inherent parasitic capacitances.

Art Unit: 2817

*Allowable Subject Matter*

**III. Claims 4 , 6,7, 11,13 and 14 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.**

The examiner could not find fair suggestion for the serially connected varactor coupled between the input port and a first port of the resonator and another varactor between the second port and the output port of the resonator; also, no load is suggested with an impedance lower than the stray capacitance...

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnold Kinhead whose telephone number is (703) 305-3486. The examiner can normally be reached on Mon to Fri from 8:30 am to 5 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Pascal, can be reached on (703) 308-4909. The fax phone number for the organization where this application or proceeding is assigned is (703) 308-7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Arnold Kinhead

Oct. 17, 2003

